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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,587	10/18/2003	Brian A. Hamman	QNX002	2256

7590
PATENT DOMINION LP
555 REPUBLIC DRIVE,
SUITE 200
PLANO, TX 75074

01/22/2007

EXAMINER

CHERVINSKY, BORIS LEO

ART UNIT	PAPER NUMBER
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2835

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/688,587

Applicant(s)

HAMMAN, BRIAN A.

Examiner

Boris L. Chervinsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 130-258 is/are pending in the application.
- 4a) Of the above claim(s) 130-185 and 218-258 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 186-217 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species: Group I, claims 130-140, Fig. 6, Fig 7A, 7B, Fig. 8A, 8B; Group II, claims 141-151 and claims 174-185, Fig. 11, 12A, 12B; Group III, claims 152-162, Fig. 13A, 13B, 13C; Group IV, claims 163-173, Fig. 14A, 14B, 14C; Group V, claims 186-197 and claims 198-217, Fig. 1, 2; Group VI, claims 218-228, Fig. 5; Group VII, claims 229-243, Fig. 4; Group VIII, claims 244-258, Fig. 3. The species are independent or distinct because they represent different embodiments and can be used independently.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

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2. During a telephone conversation with Mr. Arthur Fisher, Reg. No. 27,549 on 1/16/07 a provisional election was made without traverse to prosecute the invention of Group V, claims 186-197 and claims 198-217. Affirmation of this election must be made by applicant in replying to this Office action. Claims 130-185 and claims 218-258 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the coolant direct contact with the surfaces of the heat-generating component must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 198, 200 are objected to because of the following informalities: in claim 198 the dissipater is mentioned in line 3 and also in line 4 preceded with article "a"; and, as it appears to be, a typographical error in lines 5-6; in claim 200 the term "the heat exchanger" lacks the antecedent basis in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 186, 187, 188, 190, 193, 194-197 are rejected under 35 U.S.C. 102(e) as being anticipated by Montgomery et al.

Montgomery discloses the cooling system for cooling heat-generating components in the data processing system having one or more processors comprising: a heat exchange unit 28, 68 for receiving heated coolant and generating cooled coolant; one or more heat transfer units 62 coupled to the heat-generating components 58 for receiving cooled coolant from the heat exchange unit and generating heated coolant for

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transportation to the heat exchange unit 28, 68; and means for transporting cooled coolant from the heat exchange unit to the heat transfer units 66 and for transporting heated coolant from the heat transfer units to the heat exchange unit 64; and the cooling system has no component acting as a reservoir while the cooling system is in operation; the one or more heat transfer units 62 have the inlet 76 for receiving cooled coolant from the heat exchange unit and the outlet 78 for receiving heated coolant for transporting to the heat exchange unit 28, 68 wherein the inlet 76 is disposed below the outlet 78 for enhancing convective circulation of the coolant; the heat exchange unit 28, 68 has the inlet 94 for receiving heated coolant from the heat transfer units and the outlet 96 for receiving cooled coolant from the heat exchange unit 28, 68 for transporting to the heat transfer units 62, wherein the outlet is disposed below the inlet for enhancing convective circulation of the coolant. The method steps of claims 194-197 are necessitated by the device structure as disclosed by Montgomery et al.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 189 is rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of Koeneman et al.

Montgomery discloses the claimed invention except the heat transfer unit where the coolant has the direct contact with the heat-generating component. Koeneman

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discloses the heat transfer unit having the cavity that is at least partially open to the heat-generating component therefore the coolant is in direct contact with the component. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the heat transfer unit as disclosed by Koeneman in the device disclosed by Montgomery for unimpeded heat transfer.

9. Claims 191, 192 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al.

Montgomery discloses the claimed invention except the telecommunication system or optical device. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the system as disclosed by Montgomery et al. for a telecommunication system or an optical device since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

10. Claims 198, 199, 208-213, 214, 215 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al.

Kang discloses the cooling system having a heat exchange unit, the heat exchange unit comprising: an input cavity 2 for receiving heated coolant and distributing the heated coolant to the dissipater 4 having a plurality of pathways 3; the dissipater 4 is for receiving the heated coolant and cooling the coolant; an output cavity 6 for receiving the cooled coolant from the dissipater, and the cooling system has no component acting as a reservoir while the cooling system is in operation, the input cavity disposed above the

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output cavity. Kang discloses the claimed invention except its intended use for cooling the heat generating components like processors, or for a data processing system, or for an optical device or for a telecommunication system. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the system as disclosed by Kang et al. for a data processing system, for a telecommunication system or an optical device since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). The method steps of claims 214 and 215 are necessitated by the device structure as disclosed by Kang et al.

11. Claims 200-207 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. in view of Roy.

Kang discloses the claimed invention except the pump disposed in the heat exchanger. Roy discloses the self-priming pump is disposed in the heat exchanger; the pump is disposed in the output cavity 20; the pump includes an impeller 60 disposed horizontally at the very bottom of the output cavity 20 of the heat exchange unit; the impeller includes one or more blades 62 with slanted surfaces inverted so as to improve the flow of coolant out of the heat exchange unit; the motor 64; and the shaft 44 coupled to the motor 64 and to the impeller 60 for operating the pump; no seal is required for the pump. It would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to modify the heat exchanger as disclosed by Kang by including the elements as disclosed by Roy for efficient heat dissipation and cooling.

12. Claims 216 and 217 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. in view of Koeneman et al.

Kang discloses the claimed invention except the heat transfer unit where the coolant has the direct contact with the heat-generating component. Koeneman discloses the heat transfer unit attached to the heat generating component, the heat transfer unit having the cavity that is at least partially open to the heat generating component therefore the coolant is in direct contact with the component. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the heat transfer unit as disclosed by Koeneman employed for the device disclosed by Kang for unimpeded heat transfer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BORIS CHERVINSKY
PRIMARY EXAMINER

Boris I. Chervinsky
1/16/7